614/E2

Isolation of bioactive metabolites in the endolichenic fungus, *Daldinia eschscholzii*, occurring in the lichen, Parmotrema sp. in Sri Lanka

U Samanthi, S Wickramaarchchi and P Paranagama*
Department of Chemistry, University of Kelaniya, Kelaniya

Since natural products are adapted to a specific function in nature, the search for novel secondary metabolites should concentrate on organisms that inhabit novel biotopes. The potential role of the endolichenic fungus (EF) and its biologically active metabolites in its association with its thalli has been investigated. The aim of this study is to isolate the biologically active compounds of the EF, *Daldinia eschscholzii,* occurring in the lichen, *Parmotrema sp*. at Hakgala montane forest in Sri Lanka. The EF, *Daldinia eschscholzii,* was grown in 64 large PDA plates and incubated at room temperature for two weeks and the secondary metabolites were extracted into EtOAc (6 L). The crude EtOAc extract was then subjected to antioxidant and antifungal bioassays to test the bioactivity. The concentration series of EtOAc extract (10 – 50 µg/mL) was tested with DPPH, $ABTS^+$ and NO radical scavenging assay. The standard synthetic antioxidant, BHT and ascorbic acid were used for the comparison of the results. The ferric reducing power of the crude EtOAc extract was compared with BHT. The antifungal bio assays against *Colletotrichum musae* (isolated from banana) and *Aspergillus flavus* (isolated from rice) were carried out according to the well diffusion method and were compared with the positive control, Bavistin and the negative control, DMSO:MeOH (1:1). The EtOAc extract (500 µg) did not show any significant inhibition of the growth or sporulation of both fungi. Since the crude extract showed high antioxidant activity, it was partitioned with hexane, chloroform ($CHCl_3$) and 60% MeOH and the bioactive fractions were identified using the above antioxidant assays. The antioxidant activity of $CHCl_3$ and MeOH fractions were confirmed and they were further fractionated using bioassay guided column chromatography (silica, sephadex) and preparative TLC to isolate pure compounds. A total of 05 pure compounds were isolated from the $CHCl_3$ fraction. NMR and HRMS spectra of the pure compounds have been obtained and characterization of these compounds is in progress.

Keywords: Antioxidant activity, bioactive*, Daldinia eschscholzii,* endolichenic.

Acknowledgements: Financial assistance by National Research Council (grant NRC-O8-13). Prof A. A. Leslie Gunatilaka and Dr. E. M. Kithsiri Wijerathne (University of Arizona) for providing NMR data of the pure compounds in this study

priyani@kln.ac.lk Tel: 112903279